

seminar

Monday June 24th

c/ Faraday, 9
Seminar Room 2º floor
Imdea Nanociencia
Ciudad Universitaria de Cantoblanco

15.00h Organic Solar Cells and Lasers

Prof. Dr. Ifor Samuel

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Organic semiconductors are of growing importance as optoelectronic materials with a wide range of applications including displays, lighting, solar cells, lasers and sensing. This talk will introduce the materials and give a brief overview of work in these fields at the Organic Semiconductor Centre. It will then focus on two topics: exciton diffusion in organic solar cell materials; and organic semiconductor lasers. Exciton diffusion is an important part of organic solar cell operation but relatively little studied, due in part to a lack of well-established reliable measurement techniques for it. The talk will describe our work to address this issue by developing a range of ways of using time-resolved fluorescence to measure exciton diffusion. Once measured exciton diffusion can also be used to learn about the morphology of solar cell blends. The attractive properties of organic semiconductors are also interesting for lasing. I will show how indirect electrical pumping by a nitride LED is a major step towards practical applications discuss the use of these polymer lasers for explosive sensing.



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